

5    What is claimed is:

1.     An device for implanting biological moieties in a host, comprising:

10            a.     a tube which comprises proximal and distal ends, at least a portion of the  
length of said tube bound by an isolating jacket;

             b.     a conduit bound by a casing which defines a lumen therein, said conduit  
mounted between the proximal and distal ends of said tube; and

             c.     a chamber within said tube defined by said jacket and said casing.

15            2.     The device of claim 1 wherein said jacket comprises an elastomer selected from  
the group consisting of silicon, polyurethane, or a blends thereof.

20            3.     The device of claim 1 wherein the casing comprises semi-permeable material  
selected from the group consisting of silicon, polyurethane, or a blends thereof.

             4.     The device of claim 1 wherein the surface of the jacket in contact with the blood  
stream is biocompatible.

25            5.     The device of claim 4 wherein the surface of the jacket comprises anti-thrombotic  
material.

             6.     The device of claim 1 wherein medium is disposed in said chamber, said lumen,  
30     or said chamber and lumen.

             7.     The device of claim 6 wherein said medium comprises solutes comprising  
biological moieties.

- 5     8.     The device of claim 6 wherein solutes diffusively transport between said lumen, said chamber, and said bloodstream.
9.     The device of claim 1 wherein said lumen is sized for over-the-wire insertion in a blood vessel.
- 10     10.     The device of claim 1 wherein one or both ends of the lumen is fitted with either a seal or a valve.
11.     The device of claim 1 wherein said conduit is sufficiently rigid to resist kinking of the device upon insertion into and travel in a peripheral blood vessel.
- 15     12.     The device of claim 1 wherein said chamber comprises at least one support member positioned between said conduit and said semi-permeable jacket and disposed for engaging an interior surface of the jacket.
- 20     13.     The device of claim 12 wherein said support member is helical.
14.     The device of claim 13 wherein said support member comprises a helical shaft and a bore formed the length of the shaft.
- 25     15.     The device of claim 1 wherein a catheter having a proximal end and a distal end is mounted in fluid communication on the conduit disposed at the proximal end of the device.
- 30     16.     The device of claim 15 wherein an injection port is mounted on the proximal end of said catheter in fluid communication with the lumen.
17.     The device of claim 16 wherein said injection port is implantable.
- 35     18.     A device for implanting biological moieties in a host, comprising:

a. a tube which comprises proximal and distal ends, at least a portion of the length of said tube bound by an isolating jacket;

b. a conduit bound by a casing which defines a lumen therein, said conduit mounted between the proximal and distal ends of said tube;

c. a chamber within said tube defined by said jacket and said casing;

d. at least one support member positioned between said conduit and said jacket and disposed for engaging an interior surface of the jacket.

19. The device of claim 18 wherein a catheter having a proximal end and a distal end is mounted in fluid communication on the conduit disposed at the proximal end of the device.

20. The device of claim 19 wherein an injection port is mounted on the proximal end of said catheter in fluid communication with the lumen.

21. The device of claim 20 wherein said injection port is implantable.

22. The device of claim 18 wherein said jacket comprises an elastomer selected from the group consisting of silicon, polyurethane, or a blends thereof.

23. The device of claim 18 wherein the casing comprises semi-permeable material selected from the group consisting of silicon, polyurethane, or a blends thereof.

24. The device of claim 18 wherein the surface of the jacket in contact with the blood stream is biocompatible.

- 5     25.     The device of claim 24 wherein the surface of the jacket comprises anti-thrombotic material.
26.     The device of claim 18 wherein medium is disposed in said chamber, said lumen, or said chamber and lumen.
- 10     27.     The device of claim 26 wherein said medium comprises solutes comprising biological moieties.
28.     The device of claim 26 wherein solutes diffusively transport between said lumen, said chamber, and said bloodstream.
- 15     29.     The device of claim 18 wherein said lumen is sized for over-the-wire insertion in a blood vessel.
- 20     30.     The device of claim 18 wherein one or both ends of the lumen is fitted with either a seal or a valve.
31.     The device of claim 18 wherein said conduit is sufficiently rigid to resist kinking of the device upon insertion into and travel in a peripheral blood vessel.
- 25     32.     The device of claim 18 wherein said support member is helical and comprises a helical shaft and a bore formed the length of the shaft.
- 30     33.     A method of treating an individual in need of therapeutic treatment which involves administration of a biological moiety, the method comprising the step of introducing the device of claim 1 into the central venous vasculature for a sufficient period to deliver a sufficient amount of said biological moiety to the individual to achieve a therapeutic effect.

5 34. The method of claim 33 wherein said individual requires therapeutic treatment for diabetes.

35. A method of introducing a biological implant into an individual, comprising the step of inserting the device of claim 1 into the central venous vasculature.

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36. The method of claim 35 wherein said individual requires therapeutic treatment for diabetes.

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37. A method of treating an individual in need of therapeutic treatment which involves administration of a biological moiety, the method comprising the step of introducing the device of claim 1 into the peritoneal cavity or subcutaneous tissue for a sufficient period to deliver a sufficient amount of said biological moiety to the individual to achieve a therapeutic effect.

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